PROJECT NOTES - GENERAL

This project will require an N.O.I.

The Contractor will be required to maintain all work in a first class condition for a 30-day operating period after the same has been completed as a whole and the GDOT Engineer has notified the Contractor in writing that the work has been finished to his satisfaction. The Contractor shall engage a mutually acceptable laboratory or qualified individual to conduct the tests in accordance with these specifications. No portion of the work will be accepted until tests prove it has been satisfactorily completed. The Contractor shall give the GDOT Project Engineer or Project Representative a minimum of 48 hours notice for all required observations or tests. Payment for this work shall be included in the price bid for water main and sewer main.

The City of Dublin reserves the right to furnish a Resident Project Engineer as deemed necessary to insure the Project quality control and conformance to Plans and Specifications, who will act as the City of Dublin's Representative on the Project and will have the authority of the GDOT Engineer as set forth in the Contract Documents.

The Contractor's operations shall be so conducted as to interfere as little as possible with utility services. Any proposed interruption by the Contractor must be accepted in advance by the City of Dublin and the GDOT Engineer.

The Contractor shall keep accurate, legible records of the locations, types, and sizes of sanitary lines, service laterals, manholes, cleanouts, water lines, fittings, valves, hydrants, drainage pipes, drainage structures and other related work performed under this project. Contractor shall record all locations and depths of utilities including water main and force main depth during and throughout construction of utilities. The horizontal locations of all portions of items installed on this project shall be accurately tied down to features that are physical and visible, such as property corner markers and/or permanent type structures. Invert elevations of all manholes, storm sewers and structures, sanitary sewers and lift stations shall be clearly indicated. These "record" drawings shall be maintained in a current state with the progress of the work. If at any time, a copy of this plan or portion of it is requested by the City of Dublin and/or GDOT, such copy shall be made available within 24 hours after the request is made.

Before final acceptance of the completed installation and before final payment is made, the Contractor shall deliver to the GDOT Engineer and the City of Dublin Engineer, "Record" Drawings on CD-rom as well as printed hard copies accurately depicting the data described above. The horizontal and vertical locations as shown on the "record" drawings for the items installed on this project shall be certified by a licensed engineer or surveyor, registered in the State in which the project is located. Marked up construction plans will not be accepted as "Record Drawings." Contractor is responsible for retaining services and payment of a licensed engineer or surveyor to certify data. Payment for this work shall be included in the price bid for Grading Complete.

The Contractor shall be responsible for restoring any property corners or monuments disturbed during construction. They shall be restored by a professional surveyor registered in the State of Georgia. Cost for this work shall be included in the price bid for Grading Complete.

A VHS video tape showing existing site conditions shall be made by the Contractor prior to start of construction. Contractor shall provide City of Dublin and the GDOT Engineer a copy of the tape. Contractor is encouraged to record any existing damaged facilities that could be questioned later by property owners. A written or recorded narrative shall be provided with the tape. Engineer shall be notified 72 hours in advance of the taping. Cost for this work shall be included in the overall price bid for Grading Complete.

Soil testing shall be done by a testing laboratory which operates in accordance with ASTM D 3740 and E 329 latest revision and be acceptable to the Engineer prior to engagement.

The following utility owners have facilities located within the limits of this project:

AT&T-Telephone
609 Bellevue Avenue
Dublin, Georgia 31021
Forrest Bloodworth
478-275-0493

City of Dublin- Water/ Sewer
P.O. Box 690
Dublin, Georgia
Ben Mercer - City Engineer
478-277-5045

Georgia Transmission Corporation-Power
2100 Exchange Place
Tucker, Georgia 30084-5336
Tony Pritchett
770-270-7511

Little Ocmulgee EMC- Power
P.O. Box 150
Alamo, Georgia 30411
Keith Couey
912-568-7171

Charter Communications-Cable TV
530 Industrial Blvd.
Dublin, Georgia 31040
Jim Lumley
478-272-1123

The contractor shall be responsible for coordinating electrical service hook ups and disconnects to the new sewer pumping stations. This work shall include the coordination time and any incidental items involved. Payment for this work shall be included in the overall price bid for sewer pumping station.

Any Signing - Marking disturbed by the contractor shall be replaced in kind at no cost to the Department of Transportation

PROJECT NOTES - WATER INSTALLATION

Hydrostatic tests on pipe shall be made by the Contractor with equipment qualified by the GDOT Engineer. The Engineer or his representative reserves the right to accept or reject testing equipment. Hydrostatic testing shall be conducted in the presence of the GDOT Engineer and a representative of the City of Dublin Engineering Department.

Water mains shall be sterilized to meet the requirements of the appropriate Health Department. Sterilization shall be in accordance with AWWA Standards C-651, latest revision.

Material shall be unloaded in a manner avoiding damage. All materials and equipment shall be stored on the roadway right of ways. Contractor shall repair any damage caused by the storage. Material shall be examined before installation. Neither damaged nor deteriorated material shall be used in the work. All materials shall be stored a minimum of 30-ft. from the edge of the travel way of all roadways.

Contractor shall arrange the work so sections of mains between valves are tested, sterilized, pavement replaced, and the section placed in service as soon as reasonable after installation.

The Contractor shall furnish the necessary pipe and perform all excavation, dewatering, shoring, backfilling, etc., necessary to make the connection of a new main to the existing water system. The Contractor shall contact the Superintendent of the Water Utility a minimum of 48 hours in advance of construction. The Contractor shall be responsible for coordinating his construction with the utility operator and the GDOT Project Engineer.

The price bid for water main shall include the following items: All fittings, valves, cleaning and disinfecting, connecting to phase I water system, metal detector tape, connections to existing rest area water systems, flush valves, tracing wire, restrained joints, pipe plugs.

The contractor shall abandon and cap the existing rest area wells in accordance with the details shown on Std. 9031-H. the cost for this work shall be included in the price bid for Grading Complete.

Laboratory tests for moisture density relationship for fill materials shall be in accordance with ASTM D 696, (Standard Proctor). In place density tests in accordance with ASTM D 1556 or ASTM D 2922.Testing laboratory shall operate in accordance to ASTM D 3740 and E 329 and shall be accepted by the Engineer. Testing laboratory and Project Engineer/Project Representative shall be given a minimum of 48 hours notice prior to taking any tests. Testing shall be Contractor's responsibility and be performed by a commercial testing laboratory operating in accordance current laws and regulations. Test results shall be furnished to the GDOT Project Engineer and the City of Dublin Engineer for approval.

Backflow devices are required on the proposed main as shown on the plan sheets and shall consist of two (2) independently operating check valves, one (1) differential relief valve located between the two (2) check valves, two (2) resilient seat gate valves, and four (4) properly placed resilient seated test cocks. Backflow preventor two (2) inches and smaller shall have a bronze valve body. Backflow preventor greater than two (2) inches shall be ductile iron or stainless steel. All internal parts in the check and relief valves shall be made of series 300 stainless steel or polymer materials suitable for potable water and rated for 175 PSI working pressure. The assembly shall be constructed so all internal parts can be serviced or removed while in line. Assembly must be factory assembled and tested.

Air Release Valves are required and shall have a cast iron body, stainless steel float, brass and stainless parts. Combination Air Release Valve: Shall be of the single housing style that combines the operating features of both an Air-Vacuum and Air Release Valve. The air/vacuum portion shall automatically exhaust large quantities of air during the filling of the pipeline and automatically allows air to re-enter the pipeline when the internal pressure of the pipeline approaches a negative value due to column separation, draining of the pipeline, power outage, pipeline break, etc. The air release portion shall automatically release small pockets of air from the pipeline while the pipeline is in operation and under pressure. The combination air valve shall have inlet and outlet connections of equal size and as shown on the drawings and a 3/32" diameter orifice for a maximum working pressure of 300 PSI. The materials of construction shall be: Body, Cover and Baffle of Cast Iron; Float and all other trim shall be of Stainless Steel with the exception of the N Seat and adjustable Orifice Button. Service saddles shall be used to connect air releases on PVC pipe and have been constructed of ductile iron body with nylon coating, 304 stainless steel hardwood and fasteners, and double strap type. Gate valves for air valve installation shall be bronze gate valves with wheel handle, solid wedge type w/inside I.P. threads, 200 p.s.i. cold water working pressure (non shock). Stainless steel pipe and fittings shall be 304 type, schedule 40, and manufacturers to ASTM A-312 or ASTM A778 specifications.

PVC schedule 80 piping shall conform to ASTM 1785. PVC schedule 80 threaded fittings shall conform to ASTM D2464 specifications.

All bends, plugs, valves, caps and tees on 2" pipe and larger, shall be provided with stainless steel tie rods or joint restraints that shall be approved by the GDOT engineer and the City of Dublin engineer. Additional restraint shall be as indicated on the drawings.

Anchorage for Hydrants - A concrete block 1' x 1' x 2' shall be poured between the back of the hydrant and undisturbed earth of the trench side without covering weep holes and bolts. Joint restraints may be used in lieu of concrete blocking. If concrete blocking is used, payment for this item shall be included in the price bid for Fire Hydrants.

Ductile iron pipe shall be tested in accordance with AWWA Standard C 600, Section 4 - Hydrostatic Testing. Allowable leakage shall not exceed that determined by the formula $L = SDP^{1/2}/133{,}200$, in which L is the allowable leakage in gallons per hour; S is the length of pipe in feet tested; D is the nominal diameter of the pipe in inches; and P is the average test pressure during the leakage test in pounds per square inch gauge. The test shall be conducted for at least two (2) hours and a pressure of 150 psi shall be maintained during the test. Fire lines shall be tested at 200 PSI for the same duration.

P.V.C. pipe shall be tested in accordance with AWWA Standard C 605, Section 7.3 ◇ Hydrostatic Testing. Allowable leakage shall not exceed that determined by the formula $L = NDP^{1/2}/7{,}400$, in which L is the allowable leakage in gallons per hour; N is the number of joints in the length of pipeline tested; D is the nominal diameter of the pipe in inches; and P is the average test pressure during the leakage test in pounds per square inch gauge. The test shall be conducted for at least two (2) hours and a pressure of 150 PSI shall be maintained during the test. Fire lines shall be tested at 200 PSI for the same duration.

Should any test of the pipe laid disclose leakage greater than the above specified, the Contractor shall at his own expense, locate and repair the defective joints until leakage is within the specified allowance. The Contractor is responsible for notifying the GDOT Engineer 48 hours (minimum) prior to applying pressure for testing. Pressure test will be witnessed by the GDOT Engineer or his authorized representative. All visible leaks shall be repaired regardless of the leakage amount.

After the hydrostatic and leakage tests have been completed, water pipes shall be disinfected and tested in accordance with AWWA C 651 and the Regulations of the local Health Department.

Water mains shall be laid at least 10 feet horizontally from any existing or proposed sanitary sewer, storm sewer, or sewer manhole. The distance shall be measured edge-to-edge.

When conditions prevent a horizontal separation of 10 feet, the water main may be laid closer to a sewer (on a case-by-case basis) provided the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation where the bottom of the water main is at least 24 inches above the top of the sewer. It is advised the sewer be constructed of materials and with joints equivalent to water main standards of construction and be pressure tested to assure water-tightness prior to backfilling.

Water mains crossing house sewers, storm sewers, or sanitary sewers shall be laid to provide a separation of at least 24 inches between the bottom of the water main and the top of the sewer. At the crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required.

When conditions prevent a vertical separation of 24-inches, the sewer passing over or under water mains shall be constructed of materials and with joints equivalent to water main standards of construction and shall be pressure tested to assure water-tightness prior to backfilling.

When water mains cross under sewers, additional measures shall be taken by providing a vertical separation of at least 24 inches between the bottom of the sewer and the top of the water main; adequate structural support for the sewers to prevent excessive deflection of joints settling on and breaking the water mains; the length of water pipe be centered at the point of crossing so the joints will be equidistant and as far as possible from the sewer; and both the sewer and water main shall be constructed of water pipe and subjected to hydrostatic tests, as prescribed in this document. Encasement of the water pipe in concrete shall also be considered.

PROJECT NOTES - SEWER INSTALLATION

The item for Sewage Pumping Station shall include dewatering, excavation, backfilling, compaction, site preparation, grading, furnishing and installing wetwell, pumps, valves, controls as well as the SCADA system, electrical, gantry and hoist system, pump station shelter, and clean-up.

Pump Station Water Service Line ◇ Payment for the 2-inch water service line to the pump station shall be paid for under the contract lump sum price for "Pump Station" at each rest area site. Payment shall include cost of pipe, fittings, dewatering, excavating all material, testing, disinfection, cleaning, compaction, metal detector tape, tracing wire, corporation stop, water meter, frost proof hydrant, backflow preventer, meter box and all other incidentals required to construct the water line. Payment shall also include the connection to the proposed 12-inch water main along the proposed road and all fittings, valves, and boring required to make the connection.

Force Mains shall be paid for at the contract unit price for sewer main for various sizes. Payment will include the pipe, plugs, fittings, restrained joints, excavation, backfilling, compaction, testing, grassing, metal detector tape, and tracing wire. Satisfactory tests must be completed before payment is made.

Tie-in Proposed 8-inch Force Main to Phase 1 Force Main ◇ Payment will be included in the price bid for Sewer Main. Payment will include dewatering, excavation, removing existing plug, connecting force mains, fittings, by-pass pumping (if required), backfilling, compaction and all equipment, labor, incidental construction, and materials to complete the tie-in.

Combination Air and Vacuum Release Valve and Manhole - Payment will be made at the contract unit price for Sanitary Sewer Manhole and will include furnishing and installing the valve and manhole, backfill, compaction, grassing, and clean-up.

Connect to Existing Rest Area Sewer System - Price for connections to the existing Rest Area Sewer Systems shall be included in the overall price bid for Sewer Pumping Station for each rest area connection and will include all labor and materials required to locate, excavate, cut, backfill and connect all sewage flows and services to the proposed sewer system in an approved manner. Payment shall also include coordination with GDOT to temporarily cut-off rest area water service to make the connection. Contractor shall provide a minimum of ten (10) days notice prior to interruption of services.

Abandon Existing Rest Area Septic Tank and Dosing Pump Station shall include the removal and disposal of all hardware, piping, control panel, electrical conduit, guide rails, structure tops, manhole ring and covers, hatches, and all other existing appurtenance required by GDOT for removal. Payment shall also include cutting down, removing and disposing of manholes and septic tank structures to an elevation 3' below grade, re-grading, and re-grassing site as required, removal and disposal of sewage and sludge material, drilling a minimum of 10inch holes in the bottom of each manhole, a minimum of ten (10) 1-inch holes in each septic tank structure, plugging pipes with brick and mortar or concrete, and fill structures with granular material, plug all other existing pipes to be abandoned at the tie-in points, and provide all labor, equipment, materials and incidental construction require to make the abandonment. Cos of this work shall be included in the price bid for Grading Complete.

Abandon Existing Rest Area Drain Field shall include location of existing drain lines and filling them with flowable fill or pressure grout. Payment shall also include abandonment of existing dosing boxes and manholes by removing and disposing of tops, covers, and frames and drilling a minimum of three (3) 1 - inch holes in the bottom of each and all incidental construction required. Payment for this work shall be included in the price bid for Grading Complete.

Testing shall be by a testing laboratory which operates in accordance to ASTM D 3740 or E 329 and shall be accepted by the GDOT Engineer prior to engagement. Mill certificates of tests on materials made by manufacturers will be accepted provided the manufacturer maintains an adequate testing laboratory, makes regularly scheduled tests, spot checked by an outside laboratory, and furnishes satisfactory certificates with the name of the one making the test.

Laboratory tests for moisture density relationship for fill materials shall be in accordance with ASTM D 698, (Standard Proctor).

In place density tests in accordance with ASTM D 1556 or ASTM D 2922.

Testing laboratory shall operate in accordance to ASTM D 3740 and E 329 and shall be accepted by the Engineer.

Testing laboratory and Project Engineer/Project Representative shall be given a minimum of 48 hours notice prior to taking any tests.

Testing shall be Contractor's responsibility and shall be completed by a commercial testing laboratory. Price bid for this work shall be included in Sewer Main.

Test results shall be furnished to the GDOT Engineer.

Infiltration, line, and grade of sewer, pump performance, and hydrostatic tests on force mains shall be made by the Contractor with equipment qualified by the GDOT Engineer and in the presence of the GDOT Engineer.

Installation of the wastewater collection system must be coordinated with other work on site. Generally, wastewater pipes will be installed first and shall be backfilled and protected so subsequent excavating and backfilling of other utilities does not disturb them. The Contractor shall replace or repair any damaged pipe or structure.

Contractor shall arrange the work so sections of sewers between manholes are backfilled and tested, lateral sewers connected, pavement replaced, and the section placed in service as soon as reasonable after installation.

Combination air and vacuum release valves shall be type designed for sewage service. Valve shall permit the release of air as the main is filling, or relieve the vacuum as the main drains or is under negative pressure. The valve shall be of long body design constructed of a cast iron body, stainless steel or bronze trim, and stainless steel float. The inlet shall be 2-inches, 5/16-inch orifice, and a venting capacity of 35 c.f.f.a.m. The working pressure shall be 20 to 150 PSIG. It shall conform to the detail shown on the drawings.

GEORGIA DEPARTMENT OF TRANSPORTATION

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REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

GENERAL NOTES

DRAWING No. 4-01

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